

## **WHAT IS CLAIMED IS:**

1. A method for forming a bottle shaped trench, said method comprising steps of:
  - providing a substrate;
  - forming a plurality of operation layers on said substrate;
  - forming a photoresist layer on said operation layers to define a predetermined position;
  - forming a trench at said predetermined position;
  - implanting predetermined material particles into an upper portion of the sidewall of the trench, said material particles reducing the oxidability of the sidewall of the trench;
  - oxidizing the sidewall of the trench to form an oxide layer, the portion of the oxide layer formed at the portion of the sidewall implanted with the material particles is thinner than the portion of the oxide layer formed at the portion of the sidewall not implanted with the material particles; and
  - removing said oxide layer to form a bottle shaped trench.
2. The method as claimed in Claim 1, wherein the material particles are implanted by tilt implantation.
3. The method as claimed in Claim 1, wherein the material particle are nitrogen ions.